

481—61.12(135C) Electrical requirements. All materials, including equipment, conductors, controls and signaling devices, shall be installed to provide a complete electrical system with the necessary characteristics and capacity necessary to supply the electrical needs shown in the specifications or indicated on the plans. All materials shall be listed by Underwriters' Laboratories, Inc., or other similarly recognized laboratories. (III)

61.12(1) Electrical systems and equipment shall meet the minimum requirements of the "National Electrical Code, 1990 edition." (III)

61.12(2) Drop cords, extension cords or any type of flexible cord shall not be used as a substitute for fixed or hard wiring. Surge protectors may be used for computers and related devices, facsimile, photocopying and scanning machines, and other consumer electronic devices in a resident's room and other locations in a facility provided the surge protector is of metal construction and approved by Underwriters Laboratories, Inc., or other similarly recognized laboratories. Only fixed supplementary electric heating shall be installed. (III)

61.12(3) Electrical metallic tubing or rigid heavy wall conduit shall be used throughout the interior of the facility. In areas used for patient care, the grounding terminals of all receptacles and all non-current-carrying conductive surfaces of fixed electrical equipment likely to become energized that are subject to personal contact shall be grounded by a green insulated copper conductor. The grounding conductor shall be sized in accordance with the requirements of the "National Electrical Code" and installed in electrical metallic tubing with the branch-circuit conductors supplying these receptacles or fixed equipment. (III) (Exception 3)

61.12(4) Electrical wiring systems shall not be surface mounted in resident-occupied areas. (II, III) (Exception 4)

61.12(5) An exit door alarm system shall be installed on all designated fire exit doors. (I, II, III)

61.12(6) Panel boards which serve lighting and appliance circuits shall be located on the same floor as the circuits they serve. All circuits shall be identified on the panel door. (III) This requirement does not apply to emergency system circuits which can be centrally located.

61.12(7) All spaces occupied by people, machinery, or equipment within buildings, parking lots, and approaches to buildings shall have electric lighting. (III)

a. All rooms in resident-occupied areas shall have general lighting. Switches for general lighting shall be at the entrance to the room. (III)

b. Light shall be provided in the areas of the building as required in Table 4. Light in the resident care area, reading area, activities task area and dining area may be reduced to 30 foot-candles measured at the floor surface when tasks are not being performed in that area. (II, III) (Exception 4)

Table 4

| Area | Measured Site | Required Foot-candles |
|----------------------|---------------------|-----------------------|
| Resident Rooms: | | |
| General | floor | 30 |
| Resident care area | bed surface | 50 |
| Task lighting | task surface | 100 |
| Night light | floor below fixture | 5 |
| Staff Areas: | | |
| Nursing station | task surface | 100 |
| Medication room | task surface | 100 |
| Activities task area | task surface | 75 |
| Dining area | task surface | 50 |

| Area | Measured Site | Required Foot-candles |
|--|---------------------|-----------------------|
| Corridor, stairway and hazardous area: | | |
| General | floor | 30 |
| Night light | floor below fixture | 10 |

c. Light fixtures shall be equipped to prevent glare and hazards. (III)
d. There shall be at least one recessed light fixture for night lighting installed no higher than 18 inches above the floor in each resident room which shall have a switch at the entrance. (III) (Exception 3)

e. Night lights shall be provided in corridors, at stairways, attendant's stations and hazardous areas. They shall be recessed if the bottom of the fixture is less than 6 feet 8 inches above the floor. (III)

f. Reading lights or lamps shall be provided for each resident in the resident's room. (III)

g. Wall-mounted lights with flexible or extension arms shall not be used. (Exception 4)

61.12(8) Each resident room shall have duplex grounding type receptacles as follows: one located on each side of the head of each bed; one for television, where used; and one on another wall. For parallel adjacent beds, only one receptacle is required between the beds. Each resident room or resident toilet room shall have one duplex ground fault interrupter outlet beside a lavatory and mirror. (III) (Exception 4) (III) (Exception 3)

a. Duplex receptacles for general and emergency use shall be installed a maximum of 50 feet apart in all corridors and within 25 feet of ends of corridors. (III) (Exception 2)

b. All receptacles within 6 feet of sinks, tubs, or showers and those installed outside the building shall be protected by a local ground fault circuit interrupter. (III) (Exception 4)

61.12(9) In general resident areas, each room shall be served by at least one calling station. Each bed shall be provided with a call device. Two call devices serving adjacent beds may be served by one calling station. (II, III) (Exception 4)

a. After November 21, 1990, pull string call devices will not be acceptable. The call device shall be electrically operable from the bed or chair. (II, III) (Exception 4)

b. All calls shall activate an audible and visible signal in each area. There shall be a visible signal in the public area at the resident's door. (II, III) (Exception 4)

c. In multicorridor units, additional visible signals shall be installed at corridor intersections. (II, III)

d. Nurses' calling systems which provide two-way voice communication shall be equipped with a light at each calling station which lights and remains lighted as long as the voice circuit is operating. (II, III)

e. A nurses' call emergency device shall be provided at each resident's toilet, bath, and shower room. (II, III)

f. The emergency call device in the resident's toilet, bath and shower room shall have a distinguishable audible signal at the nurses' station. (II, III) (Exception 4)

g. As an alternative to a hardwired nurse calling station with a visible signal in the corridor at a resident's room, a wireless calling system that provides an acceptable means of identifying the origin or location of a call is acceptable.

h. A wireless calling system shall be connected to an emergency power source to ensure operation during a power outage.

i. Pagers used as part of a wireless calling system shall have a self-diagnostic system to alert the user of a low battery.

j. For wireless calling systems utilizing two-way communication devices, a visible indicator shall be placed in a resident's room to indicate when the system is operable and conversations may be heard.

61.12(10) Emergency electric service shall provide electricity during an interruption of the normal electric supply which could affect the resident care or the safety of the occupants. Facilities of 19 or fewer beds are exempt from this requirement. (III) (Exception 3)

- a. The source of the emergency electric service shall be from an emergency generating set. (III)
- b. The required emergency generating set, including the prime mover, shall not be powered solely by natural gas or cooled solely by domestic water. (III) (Exception 4)
- c. The emergency generator set shall supply all lighting and power load demands of the emergency system and shall be located on the premises. (III)
- d. Emergency electric service shall be provided to the distribution system for light as follows:
 - (1) Exits and all necessary ways of approach to exits, including exit signs and exit direction signs, exterior of exits, exit doorways, stairways, and corridors; (II, III)
 - (2) Egress as required in NFPA Standard 101; (II, III)
 - (3) Dining and recreation rooms; (III)
 - (4) Nurses' work area; (III)
 - (5) Generator set location; (III)
 - (6) Switch-gear location; (III)
 - (7) Boiler room; (III) and
 - (8) Elevator. (III)
- e. Emergency electric service shall be provided to the distribution system for equipment essential to life safety and to protect vital equipment or materials as follows:
 - (1) Call board; (III)
 - (2) Alarm systems, including fire alarm activated at manual stations; water flow alarm devices or sprinkler systems, where electrically operated; fire detection and smoke detection systems; paging or speaker systems intended for issuing instructions during emergency conditions; and alarms required for nonflammable medical gas systems, where installed; (III)
 - (3) Sewage and sump lift pump, where installed; (III)
 - (4) All required duplex receptacles in resident areas; (III)
 - (5) One elevator, if required for emergency service; (III)
 - (6) Burners and pumps necessary for operation of one or more boilers and their necessary auxiliaries and controls required for heating; (III) and
 - (7) Equipment necessary for maintaining telephone service. (III)
- f. Emergency electric service shall be provided to the distribution system for heating as follows:
 - (1) Where electricity is the only source of power normally used for space heating, the emergency service shall provide heating for resident rooms or an area approximately 30 square feet per bed within the facility to accommodate all of the residents for the duration of the emergency; (III)
 - (2) Emergency heating shall not be required if the facility is supplied by at least two service feeders. Each shall be supplied by separate sources from an integrated transmission distribution system. Each shall be capable of supplying required service, and each so routed, connected and protected that a fault any place between the utility energy source and the facility will not cause an interruption of more than one of the electric service feeders. (III)
- g. The emergency electrical system shall be brought to full voltage and frequency and be connected within ten seconds through one or more primary automatic transfer switches. Power to pumps and burners may be brought to full power through the use of manual switches. (III)
- h. Receptacles connected to the emergency system shall be distinctively marked for identification. (III)
- i. Storage-battery-powered lights, provided to augment emergency light or for continuity of light during the interim of transfer switches, shall not be used as a substitute for the requirements of a generator. (III)